AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended)   An engine transition test instrument comprising:

a virtual engine ~~test means~~ tester for simulating a transition state of a virtual engine in which ~~an engine~~ a rotational speed or torque of the virtual engine changes with time,

wherein the virtual engine ~~test means~~ tester comprises ~~simulation means~~ a simulator for simulating ~~the~~ behavior of ~~an~~ the virtual engine by a transition engine model ~~created~~ based on data obtained by driving an actual engine while changing a value of at least one controlled factor;

a virtual ~~control means~~ controller that emulates ~~an~~ actual ~~control means~~ controller that controls ~~an~~ the actual engine, and supplies an engine control signal to the ~~simulation means~~ simulator; and

a control value operation means ~~that supplies~~ for supplying a control value for the controlled factor to the virtual ~~control means, causes~~ controller causing simulation results by the ~~simulation means~~ simulator to be displayed on a display means ~~of an operator, and corrects the control value according to an operation by the operator~~, wherein

the control value operation means ~~comprises means for causing a~~ causes the control value used for the simulation to be displayed in a time-series graph on the display means along with the simulation results, and

the control value operation means updates the control value displayed in the graph according to a point-and-drag operation by an operator to obtain a new control value.

2. (Currently Amended) The engine transition test instrument according to claim 1, further comprising:

a means for conducting a transition test on ~~the~~ actual engine using ~~a~~ the new control value ~~corrected by the control value operation means~~; and

a means for updating ~~a~~ the transition engine model in the ~~simulation means~~ simulator based on test results by the means for conducting the transition test.

3. (Canceled)

4. (Currently Amended) The engine transition test instrument according to claim 1, wherein the control value operation means causes a target value for ~~a~~ the simulation by the ~~simulation means~~ simulator to be displayed on the display means in parallel with ~~the~~ simulation results.

5. (Currently Amended) The engine transition test instrument according to claim 1, wherein with respect to ~~a~~ the portion in which the difference between ~~the~~ simulation results and a target value exceeds a permissible limit, the control value operation means causes the simulation results to be displayed in a display pattern different from that for ~~the~~ other portions.

6. (Currently Amended) The engine transition test instrument according to claim 1, wherein with respect to ~~a~~ the control value that corresponds to a portion in which the difference between ~~the~~ simulation results and a target value exceeds a permissible limit, the control value operation means causes the control value to be displayed in a display pattern different from that for ~~the~~ other portions.

7. (Currently Amended) The engine transition test instrument according to claim 1, wherein the control value operation means divides ~~the~~ simulation time into time slits of a unit period of time, and causes ~~a~~ the time slit in which an integrated value of the difference between ~~the~~ simulation results and a target value exceeds a threshold value to be displayed in a display pattern different from that for the other time slits.

8. (Currently Amended) An engine transition test method comprising:

a first step of creating a transition engine model as a virtual engine created based on data obtained by driving an actual engine while changing a value of at least one controlled factor in a transition state in which an engine rotational speed or torque changes with time,

a second step of ~~assuming the transition engine model as a virtual engine, and~~ displaying a control value for the controlled factor for operating the virtual engine;

a third step of emulating an actual ~~control means~~ controller that controls an actual engine and supplying an engine control signal to the virtual engine based on the control value;

a fourth step of displaying simulation results of operating the virtual engine according to the engine control signal; and

a fifth step of correcting the control value according to the displayed simulation results, wherein

the second through the fifth steps are repeated until the simulation results satisfy a performance objective[[;]],

~~in the second step,~~ the control value is displayed in a time-series graph in the second step[[;]], [[and]]

~~in the fourth step,~~ the simulation results are displayed in parallel with the graph display of the control value in the fourth step, and

an operator updates the control value displayed in the graph according to a point-and drag operation to obtain a new control value in the fifth step.

9. (Currently Amended) The engine transition test method according to claim 8, further comprising:

a sixth step of providing ~~a~~ the control value, with which a performance objective has been satisfied, by repeating the second through the fifth steps to control ~~means of an~~ the actual engine, and conducting an actual transition test on the actual engine; and

a seventh step of updating the transition engine model based on results of the transition test,

wherein the second through the fifth steps are repeated with the updated transition engine model.

10. (Canceled)

11. (Currently Amended) The engine transition test method according to claim 8,wherein in the second step or the fourth step, a target value for a the simulation is displayed in parallel with the simulation results in the fourth step.

12. (Currently Amended) The engine transition test method according to claim 8, wherein in the fourth step, with respect to a portion in which the difference between the simulation results and a target value exceeds a permissible limit, the simulation results of that portion are displayed in a display pattern different from that for the other portions.

13. (Currently Amended) The engine transition test method according to claim 8, wherein in the fourth step, a the control value corresponding to a portion in which the difference between the simulation results and a target value exceeds a permissible limit is displayed in a display pattern different from that for the other portions.

14. (Currently Amended) The engine transition test method according to claim 8, wherein in the fourth step, the a simulation time is divided into time slits of a unit period of time, and a time slit in which an integrated value of the difference between the simulation results and a target value exceeds a threshold value is displayed in a display pattern different from that for the other time slits.

15. (Currently Amended) A computer program that realizes, by being installed on readable medium having instructions for causing an information processing system to operate:

~~simulation means~~ <u>a simulator</u> for simulating <u>the</u> behavior of ~~an~~ <u>a virtual</u> engine by a transition engine model ~~created~~ based on data obtained by driving an actual engine while changing a value of at least one controlled factor;

<u>a</u> virtual ~~control means~~ <u>controller</u> that emulates <u>an</u> actual ~~control means~~ <u>controller</u> that controls ~~an~~ <u>the</u> actual engine, and supplies an engine control signal to the ~~simulation means~~ <u>simulator</u>;

<u>a</u> control value operation means that supplies a control value for ~~the~~ <u>a</u> controlled factor to the virtual ~~control means~~ <u>controller,</u> <u>that</u> causes simulation results by the ~~simulation means~~ <u>simulator</u> to be displayed on a display screen ~~of an operator,~~ <u>wherein</u>

~~corrects the control value according to an operation by the operator; and means for causing a~~

<u>the</u> control value used for the simulation ~~to be~~ <u>is</u> displayed in a time-series graph on the display means along with the simulation results<u>, and</u>

<u>the control value operation means updates the control value displayed in the graph according to a point-and drag operation by an operator to obtain a new control value.</u>

16. (Canceled)